Exhibit C

Exhibit C – U.S. Patent No. 9,490,879

Toyota makes, uses, tests, offers for sale, sells, and/or imports vehicles that comply, operate in accordance, and/or are configured in accordance with 36 Series of one or more of 3GPP releases 10-16. Such vehicles are collectively referred to as the "Accused Products." The Accused Products include Toyota and Lexus-branded vehicles that support LTE and that were made in, used in, tested in, offered for sale in, sold in, or imported into the United States by Toyota at some point in time since 2018. Each of the Accused Products supports LTE and, thus, includes the features and functionality identified in this chart. The features and functionality identified in this chart cause the Accused Products to practice the asserted claims of U.S. Patent No. 9,490,879 (the "'879 patent").

Claim 1	Accused Products
[PRE] A method performed by a user terminal of a cellular telecommunication system comprising:	An Accused Product configured is a user terminal of a cellular telecommunication system. As evidenced below, the Accused Products perform the claimed method when operating on an LTE network.
[A] receiving, by the user terminal, an indication of an uplink transmission scheme to be used for transmission on a physical uplink shared channel (PUSCH), wherein the indication indicates either a single-antenna transmission scheme or a multi-antenna transmission scheme;	As evidenced below, an Accused Product operating on an LTE network receives an indication of an uplink transmission scheme to be used for transmission on a physical uplink shared channel (PUSCH), wherein the indication indicates either a single-antenna transmission scheme or a multi-antenna transmission scheme.

<table>
<tr><th>Claim 1</th><th>Accused Products</th></tr>
<tr><td></td><td>
8.0 UE procedure for transmitting the physical uplink shared channel
[…]
A UE is semi-statically configured via higher layer signalling to transmit PUSCH transmissions signalled via PDCCH according to one of two uplink transmission modes, denoted mode 1 - 2 as defined in Table 8-3.If a UE is configured by higher layers to decode PDCCHs with the CRC scrambled by the C-RNTI, the UE shall decode the PDCCH according to the combination defined in Table 8-3 and transmit the corresponding PUSCH. The scrambling initialization of this PUSCH corresponding to these PDCCHs and the PUSCH retransmission for the same transport block is by C-RNTI.
Transmission mode 1 is the default uplink transmission mode for a UE until the UE is assigned an uplink transmission mode by higher layer signalling.
When a UE configured in transmission mode 2 receives a DCI Format 0 uplink scheduling grant, it shall assume that the PUSCH transmission is associated with transport block 1 and that transport block 2 is disabled.
Table 8-3: PDCCH and PUSCH configured by C-RNTI
<table>
<tr><th>Transmission mode</th><th>DCI format</th><th>Search Space</th><th>Transmission scheme of PUSCH corresponding to PDCCH</th></tr>
<tr><td>Mode 1</td><td>DCI format 0</td><td>Common and UE specific by C-RNTI</td><td>Single-antenna port, port 10 (see subclause 8.0.1)</td></tr>
<tr><td>Mode 2</td><td>DCI format 0</td><td>Common and UE specific by C-RNTI</td><td>Single-antenna port, port 10 (see subclause 8.0.1)</td></tr>
<tr><td></td><td>DCI format 4</td><td>UE specific by C-RNTI</td><td>Closed-loop spatial multiplexing (see subclause 8.0.2)</td></tr>
</table>
Source: 36.213,[1] pp. 76-78
</td></tr>
<tr><td>[B] determining PUSCH resources of the user terminal for an uplink subframe;</td><td>As evidenced below, an Accused Product operating on an LTE network determines PUSCH resources of the user terminal for an uplink subframe.</td></tr>
</table>

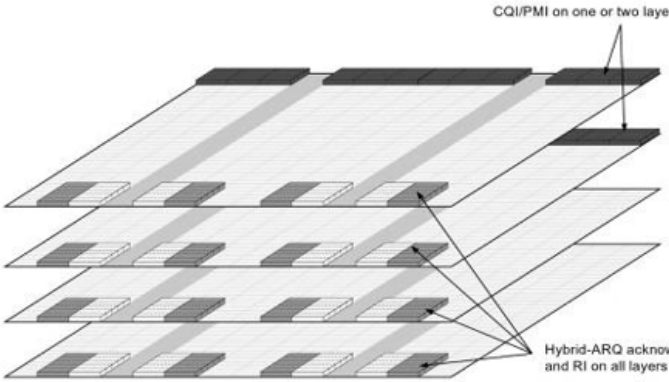
[1] 3GPP TS 36.213 V10.13.0 (2015-06) Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures (Release 10)

Claim 1	Accused Products
	8.1 Resource Allocation for PDCCH with uplink DCI Format Two resource allocation schemes Type 0 and Type 1 are supported for PDCCH with uplink DCI format. If the resource allocation type bit is not present in the uplink DCI format, only resource allocation type 0 is supported. If the resource allocation type bit is present in the uplink DCI format, the selected resource allocation type for a decoded PDCCH is indicated by a resource allocation type bit where type 0 is indicated by 0 value and type 1 is indicated otherwise. The UE shall interpret the resource allocation field depending on the resource allocation type bit in the uplink PDCCH DCI format detected. **Source**: 36.213, p. 80 **8.6 Modulation order, redundancy version and transport block size determination** To determine the modulation order, redundancy version and transport block size for the physical uplink shared channel, the UE shall first – read the "modulation and coding scheme and redundancy version" field (I_{MCS}), and – check the "CSI request" bit field, and – compute the total number of allocated PRBs (N_{PRB}) based on the procedure defined in subclause 8.1, and – compute the number of coded symbols for control information. **Source**: 36.213, p. 88
[C] allocating at least one control message field to the resources of the PUSCH according to the uplink transmission scheme; and,	As evidenced below, an Accused Product operating on an LTE network allocates at least one control message field to the resources of the PUSCH according to the uplink transmission scheme.

Claim 1	Accused Products
	5.2.2.6 Channel coding of control information Control data arrives at the coding unit in the form of channel quality information (CQI and/or PMI), HARQ-ACK and rank indication. Different coding rates for the control information are achieved by allocating different number of coded symbols for its transmission. When control data are transmitted in the PUSCH, the channel coding for HARQ-ACK, rank indication and channel quality information $o_0, o_1, o_2, ..., o_{O-1}$ is done independently. […] When the UE transmits HARQ-ACK bits or rank indicator bits, it shall determine the number of coded modulation symbols per layer Q' for HARQ-ACK or rank indicator as follows. For the case when only one transport block is transmitted in the PUSCH conveying the HARQ-ACK bits or rank indicator bits: $$Q' = \min\left(\left\lceil \frac{O \cdot M_{sc}^{PUSCH-initial} \cdot N_{symb}^{PUSCH-initial} \cdot \beta_{offset}^{PUSCH}}{\sum_{r=0}^{C-1} K_r} \right\rceil, 4 \cdot M_{sc}^{PUSCH}\right)$$ […] For the case when two transport blocks are transmitted in the PUSCH conveying the HARQ-ACK bits or rank indicator bits: $$Q' = \max\left[\min\left(Q'_{temp}, 4 \cdot M_{sc}^{PUSCH}\right), Q'_{\min}\right] \text{ with}$$ […] **Source:** TS 36.212,[2] pp. 23-24
[D] on a condition that the uplink transmission scheme is the multi-antenna transmission scheme, transmitting in the uplink subframe one or more of the at least one control message field via multiple antennas using transmit diversity	As evidenced below, an Accused Product operating on an LTE network, on a condition that the uplink transmission scheme is the multi-antenna transmission scheme, transmitting in the uplink subframe one or more of the at least one control message field via multiple antennas using transmit diversity multi-antenna transmission and concurrently transmitting in the uplink subframe a plurality of different traffic data via the multiple antennas using multi-stream spatial multiplexing.

[2] 3GPP TS 36.212 V10.9.0 (2015-09) Evolved Universal Terrestrial Radio Access (E-UTRA); Multiplexing and channel coding (Release 10)

Claim 1	Accused Products
multi-antenna transmission and concurrently transmitting in the uplink subframe a plurality of different traffic data via the multiple antennas using multi-stream spatial multiplexing.	5.2.2.6 Channel coding of control information […] When HARQ-ACK information is to be multiplexed with UL-SCH at a given PUSCH, the HARQ-ACK information is multiplexed in all layers of all transport blocks of that PUSCH. For a given transport block, the vector sequence output of the channel coding for HARQ-ACK information is denoted by $\underline{q}_0^{ACK}, \underline{q}_1^{ACK}, \ldots, \underline{q}_{Q'_{ACK}-1}^{ACK}$, where $\underline{q}_i^{ACK}$, $i = 0, \ldots, Q'_{ACK} - 1$ are column vectors of length $(Q_m \cdot N_L)$ and where $Q'_{ACK} = Q_{ACK} / Q_m$ is obtained as follows: Set i, k to 0 while $i < Q_{ACK}$ $\hat{\underline{q}}_k^{ACK} = [q_i^{ACK} \ldots q_{i+Q_m-1}^{ACK}]$ -- temporary row vector $\underline{q}_k^{ACK} = [\overbrace{\hat{\underline{q}}_k^{ACK} \cdots \hat{\underline{q}}_k^{ACK}}^{N_L}]^T$ -- replicating the row vector $\hat{\underline{q}}_k^{ACK}$ N_L times and transposing into a column vector $i = i + Q_m$ $k = k + 1$ end while where N_L is the number of layers onto which the UL-SCH transport block is mapped. **Source:** TS 36.212, pp. 23-29

Claim 1	Accused Products
	For uplink spatial multiplexing, in which case two transport blocks are transmitted simultaneously on the PUSCH, the CQI and PMI are multiplexed with the coded transport block using the highest modulation-and-coding scheme, followed by applying the multiplexing scheme described above per layer (Figure 11.33). The intention behind  **FIGURE 11.33** Multiplexing of CQI/PMI, RI and hybrid-ARQ acknowledgements in case of uplink spatial multiplexing this approach is to transmit the CQI and PMI on the (one or two) layers with the best quality.[25] The hybrid-ARQ acknowledgements and the rank indicator are replicated across all transmission layers and multiplexed with the coded data in each layer in the same way as the single layer case described above. The bits may, though, have been scrambled differently on the different layers. In essence, as the same information is transmitted on multiple layers with different scrambling, this provides diversity. **Source:** The 4G: LTE/LTE-Advanced,[3] pp. 286-87

[3] Erik Dahlman, et. al, 4G: LTE/LTE-Advanced for Mobile Broadband (2d ed. 2014)

Claim 2	Accused Products
[PRE] An apparatus for use in a cellular telecommunication system, the apparatus comprising:	An Accused Product includes "an apparatus for use in a cellular telecommunication system" (e.g., a telematics unit or data communications module, and associated hardware/software for communicating using LTE).
[A] a receiver configured to receive an indication of an uplink transmission scheme to be used for transmission on a physical uplink shared channel (PUSCH), wherein the indication indicates either a single-antenna transmission scheme or a multi-antenna transmission scheme; [B] multiple antennas;	The Accused Products include hardware/software configured to receive signals when communicating using LTE (i.e., a receiver). As evidenced above, the hardware/software configured to receive signals when communicating using LTE is configured to receive an indication of an uplink transmission scheme to be used for transmission on a physical uplink shared channel (PUSCH), wherein the indication indicates either a single-antenna transmission scheme or a multi-antenna transmission scheme. *See* Claim 1, [A]. An Accused product includes multiple antennas, as evidenced by support for closed-loop spatial multiplexing. *See* Claim 1, [A].
[C][1] a processor configured to: determine PUSCH resources of the apparatus for an uplink subframe; and	The Accused Products include one or more processors (e.g., processor(s) in a telematics unit, processor(s) in a data communications module) configured to implement and/or support LTE communications. As evidenced above, the one or more processors are configured to determine PUSCH resources of the apparatus for an uplink subframe. *See* Claim 1, [B].
[C][2] [a processor configured to:] allocate at least one control message field to the resources of the PUSCH according to the uplink transmission scheme; and	As evidenced above, the one or more processors are configured to allocate at least one control message field to the resources of the PUSCH according to the uplink transmission scheme. *See* Claim 1, [C].
[D] a transmitter configured to, on a condition that the uplink	The Accused Products include hardware/software configured to transmit signals when communicating using LTE (i.e., a transmitter). As evidenced above, the hardware/software configured to transmit signals when communicating using LTE is configured to, on a

Claim 2	Accused Products
transmission scheme is the multi-antenna transmission scheme: transmit in the uplink subframe one or more of the at least one control message field via the multiple antennas using transmit diversity multi-antenna transmission; and transmit in the uplink subframe concurrently with transmitting the one or more of the at least one control message field a plurality of different traffic data via the multiple antennas using multi-stream spatial multiplexing.	condition that the uplink transmission scheme is the multi-antenna transmission scheme, transmit in the uplink subframe one or more of the at least one control message field via the multiple antennas using transmit diversity multi-antenna transmission and transmit in the uplink subframe concurrently with transmitting the one or more of the at least one control message field a plurality of different traffic data via the multiple antennas using multi-stream spatial multiplexing. *See* Claim 1, [D].

Claim 3	Accused Products
3. A user terminal of the cellular telecommunication system comprising the apparatus according to claim 2.	An Accused Product is a user terminal of the cellular telecommunication system.

Claim 4	Accused Products
[PRE] A non-transitory computer readable medium storing program instructions for execution by at least one processor, the program instructions comprising:	Each Accused Product includes one or more processors (e.g., processor(s) in a telematics unit, processor(s) in a data communications module) configured to implement and/or support LTE communications. These processors implement instructions stored as software/code in memory included in the Accused Product (i.e., non-transitory computer readable medium storing program instructions for execution by at least one processor).

Claim 4	Accused Products
[A] program instructions for receiving an indication of an uplink transmission scheme to be used for transmission on a physical uplink shared channel (PUSCH), wherein the uplink transmission scheme is for a user terminal of a cellular telecommunication system, and wherein the indication indicates either a single-antenna transmission scheme or a multi-antenna transmission scheme;	As evidenced above, the instructions include software/code that when implemented cause the Accused Product to receive an indication of an uplink transmission scheme to be used for transmission on a physical uplink shared channel (PUSCH), wherein the uplink transmission scheme is for a user terminal of a cellular telecommunication system, and wherein the indication indicates either a single-antenna transmission scheme or a multi-antenna transmission scheme. *See* Claim 1, [A].
[B] program instructions for determining PUSCH resources of the user terminal for an uplink subframe;	As evidenced above, the instructions include software/code that when implemented cause the Accused Product to determine PUSCH resources of the user terminal for an uplink subframe. *See* Claim 1, [B]
[C] program instructions for allocating at least one control message field to the resources of the PUSCH according to the uplink transmission scheme; and	As evidenced above, the instructions include software/code that when implemented cause the Accused Product to allocate at least one control message field to the resources of the PUSCH according to the uplink transmission scheme. *See* Claim 1, [C]
[D] program instructions for transmitting in the uplink subframe, on a condition that the uplink transmission scheme is the multi-antenna transmission scheme, one or more of the at least one control message field via multiple antennas	As evidenced above, the instructions include software/code that when implemented cause the Accused Product to transmit in the uplink subframe, on a condition that the uplink transmission scheme is the multi-antenna transmission scheme, one or more of the at least one control message field via multiple antennas using transmit diversity multi-antenna transmission and concurrently transmit in the uplink subframe a plurality of different traffic data via the multiple antennas using multi-stream spatial multiplexing. *See* Claim 1, [D]

Claim 4	Accused Products
using transmit diversity multi-antenna transmission and concurrently transmitting in the uplink subframe a plurality of different traffic data via the multiple antennas using multi-stream spatial multiplexing.	